

# RSFD1701C

## Duplexer for Band 3



### Description

RSFD1701C is a miniature duplexer designed for mobile phone to get good performance . RSFD1701C is designed with Film Bulk Acoustic Resonator (FBAR) technology to enable LTE application demanding high power handling, stringent linearity requirement, and low insertion loss along with meeting the critical out-of-band attenuation .

### Features

- ✧ Low Insertion Loss
- ✧ Plastic Chip Scale Package (CSP)
- ✧ Miniature Size
  - 1.8 mm x 1.4 mm x 0.65 mm
- ✧ Single-ended(SE) 50ohm receive & transmit ports
- ✧ High Isolation
- ✧ High Power Handling
- ✧ Low Temperature Coefficient of Frequency
- ✧ Excellent ESD protection ability
- ✧ RoHS Compliant, Pb-Free Module Package
- ✧ Moisture Sensitivity: MSL3



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### Electrical Specification

Test Temperature: 25°C

Parameter	Min	Typ*	Max	Unit
<b>Transmit Port to Antenna Port</b>				
Insertion Loss (1710~1785MHz)	\	2.0	3.5	dB
Insertion Loss (1712.5~1782.5MHz) Any 5MHz	\	2.0(1)	3.0(2)	dB
Ripple(1710~1785MHz)	\	0.3	1.1(3)	dB
VSWR (1710~1785MHz,ANT)	\	1.5	2.2	\
VSWR (1710~1785MHz,TX)	\	1.4	2.1	\
Absolute Attenuation(10~1565.42MHz)	30	46	\	dB
(814~849MHz)	33	39	\	dB
(832~862MHz)	33	39	\	dB
(880~915MHz)	33	40	\	dB
(925~960MHz)	32	41	\	dB
(1226~1250MHz)	40	55	\	dB
(1496~1511MHz)	33	40	\	dB
(1559~1563MHz)	36	45	\	dB
(1565.42~1573.37MHz)	37	45	\	dB
(1573.37~1577.47MHz)	38	45	\	dB
(1577.47~1585.42MHz)	38	44	\	dB
(1597.55~1605.89MHz)	35	41	\	dB
(1605.89~1680MHz)	20	30	\	dB
(1805~1880MHz)	42	55	\	dB
(1920~1980MHz)	30	45	\	dB
(2110~2170MHz)	24	34	\	dB
(2400~2500MHz)	20	25	\	dB
(2620~2690MHz)	18	23	\	dB
(3420~3570MHz, 2fo)	15	18	\	dB
(4900~5850MHz)	20	30	\	dB
(5100~5385MHz)	25	30	\	dB
(5130~5355MHz, 3fo)	25	30	\	dB
(6840~7140MHz)	18	35	\	dB

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Parameter	Min	Typ*	Max	Unit
<b>Antenna Port to Receive Port</b>				
Insertion Loss (1805~1880MHz)	\	2.4	3.8	dB
Insertion Loss (1807.5~1877.5MHz) Any 5MHz	\	2.3 <sup>(1)</sup>	3.5 <sup>(2)</sup>	dB
Ripple(1805~1880MHz)	\	0.3	1.7 <sup>(3)</sup>	dB
VSWR(1805~1880MHz,ANT)	\	1.6	2.5	\
VSWR (1805~1880MHz,RX)	\	1.6	2.4	\
Absolute Attenuation(1~1710MHz)	30	35	\	dB
(814~849MHz)	32	33	\	dB
(832~862MHz)	32	36	\	dB
(880~915MHz)	32	36	\	dB
(1447~1463MHz)	30	33	\	dB
(1615~1690MHz)	32	38	\	dB
(1710~1785MHz)	43	55	\	dB
(1785~1790MHz)	30	60	\	dB
(1920~6000MHz)	30	50	\	dB
(2400~2500MHz)	40	48	\	dB
(2500~2570MHz)	40	45	\	dB
(2570~3515MHz)	42	50	\	dB
(3515~3760MHz)	45	65	\	dB
(4900~5950MHz, 2fo)	35	45	\	dB
(5205~5660MHz)	35	45	\	dB
(7220~7520MHz, 3fo)	22	25	\	dB
<b>Parameter</b>	<b>Min</b>	<b>Typ*</b>	<b>Max</b>	<b>Unit</b>
<b>Antenna Port to Receive Port</b>				
<b>Isolation</b>				
1710~1785MHz	48	60	\	dB
1805~1880MHz	52	60	\	dB

\*Data is the integrated value of the linear s-parameter over indicated band.

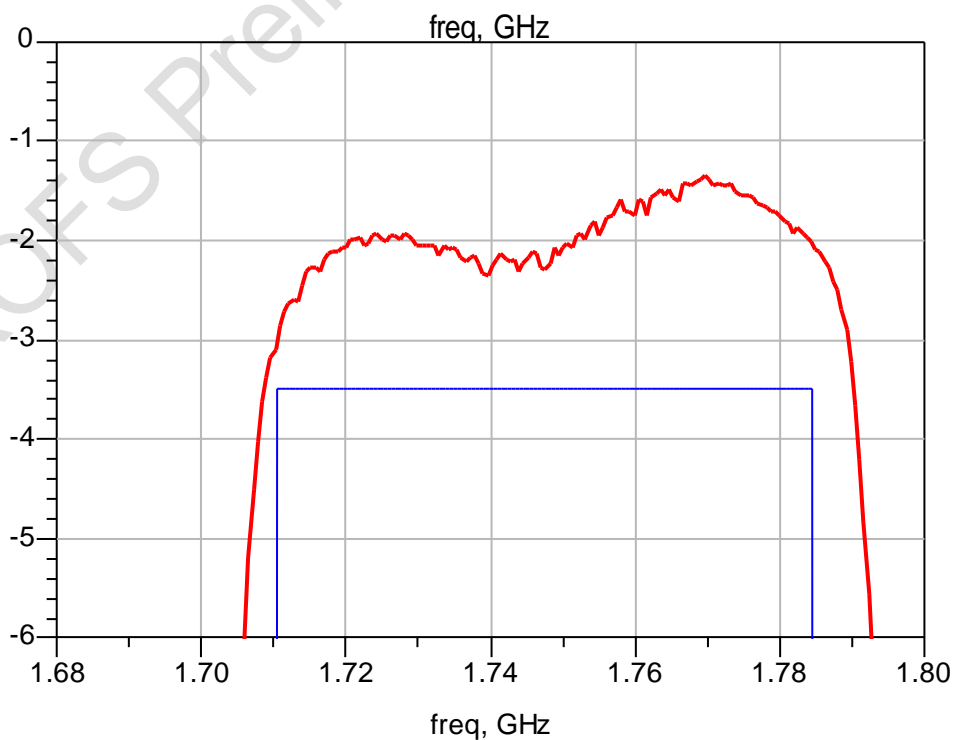
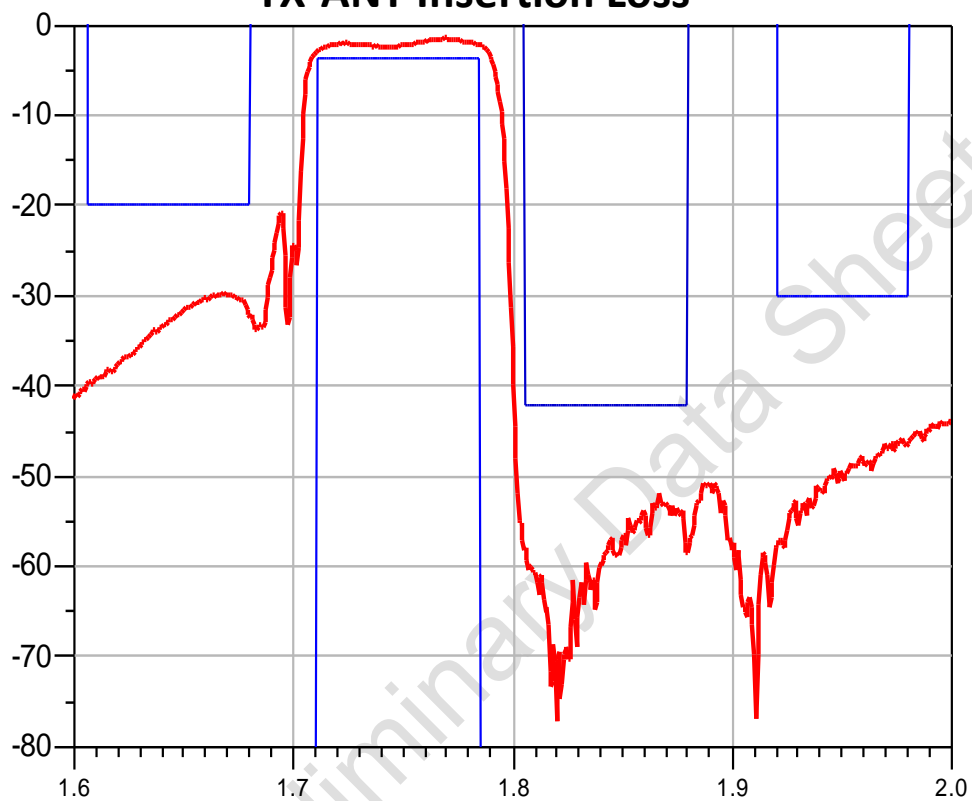
(1) Data is the integrated average value of the linear S-parameter over 5MHz.

(2) Data is the actual worst value of the filter over indicated band .

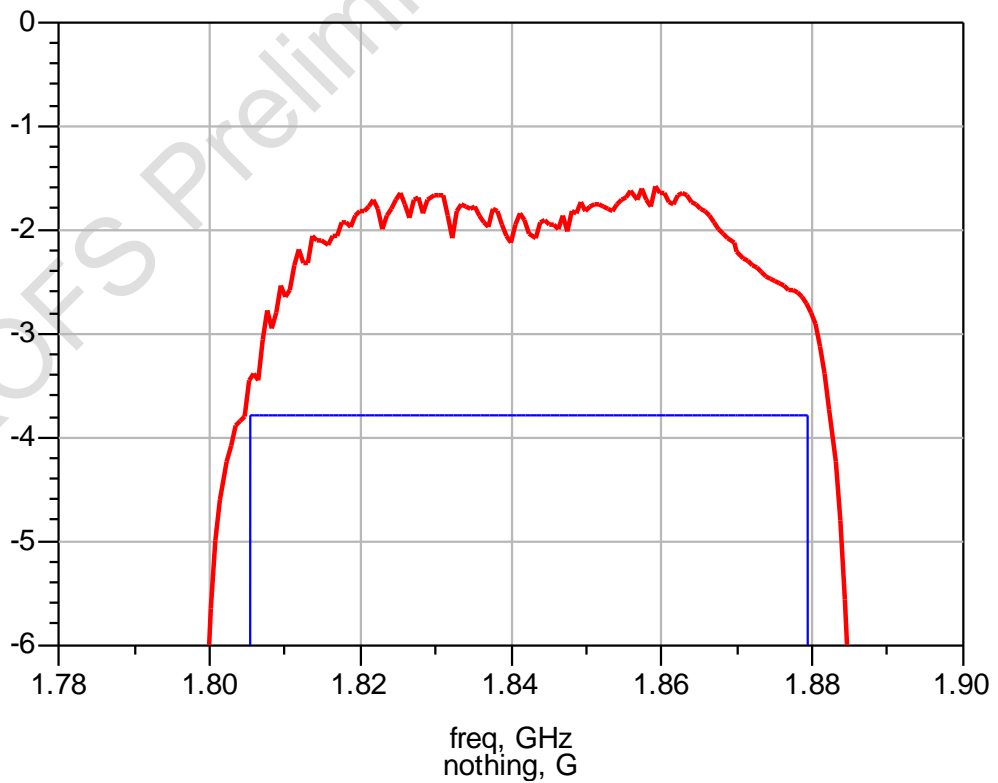
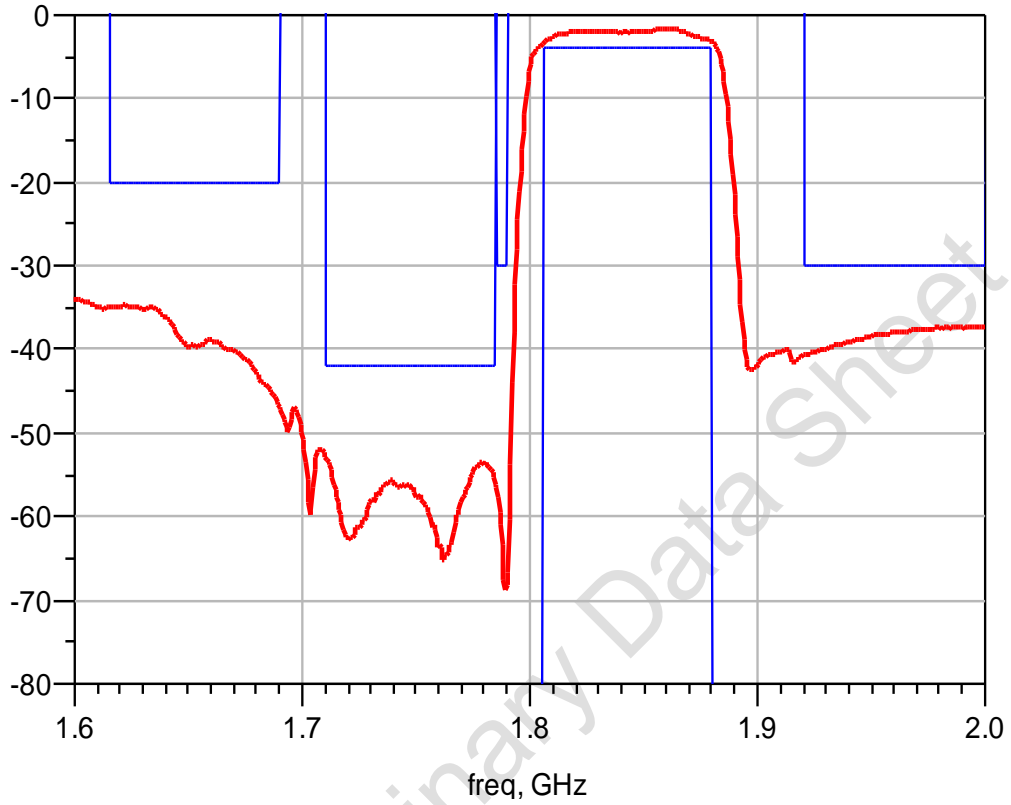
(3) Data is the integrated Max value of the linear S-parameter over 5MHz.

### Typical Performance at $T_c=25^\circ C$

#### TX-ANT Insertion Loss



## ANT-RX Insertion Loss

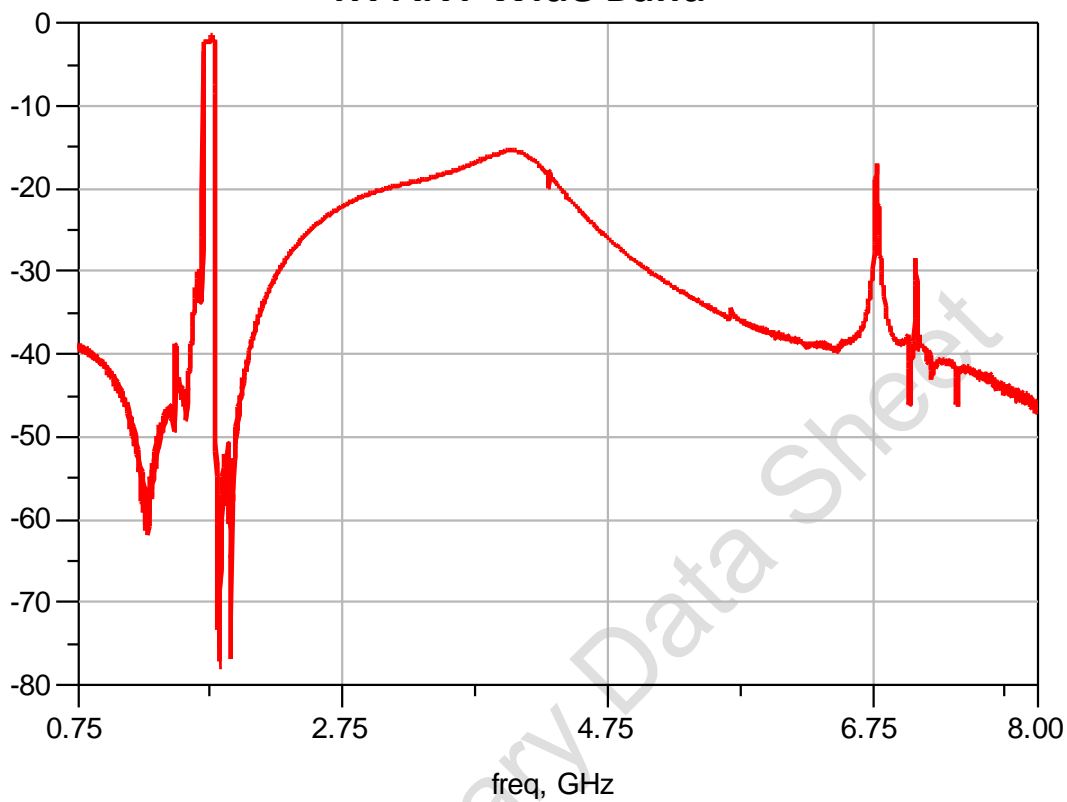


# RSFD1701C

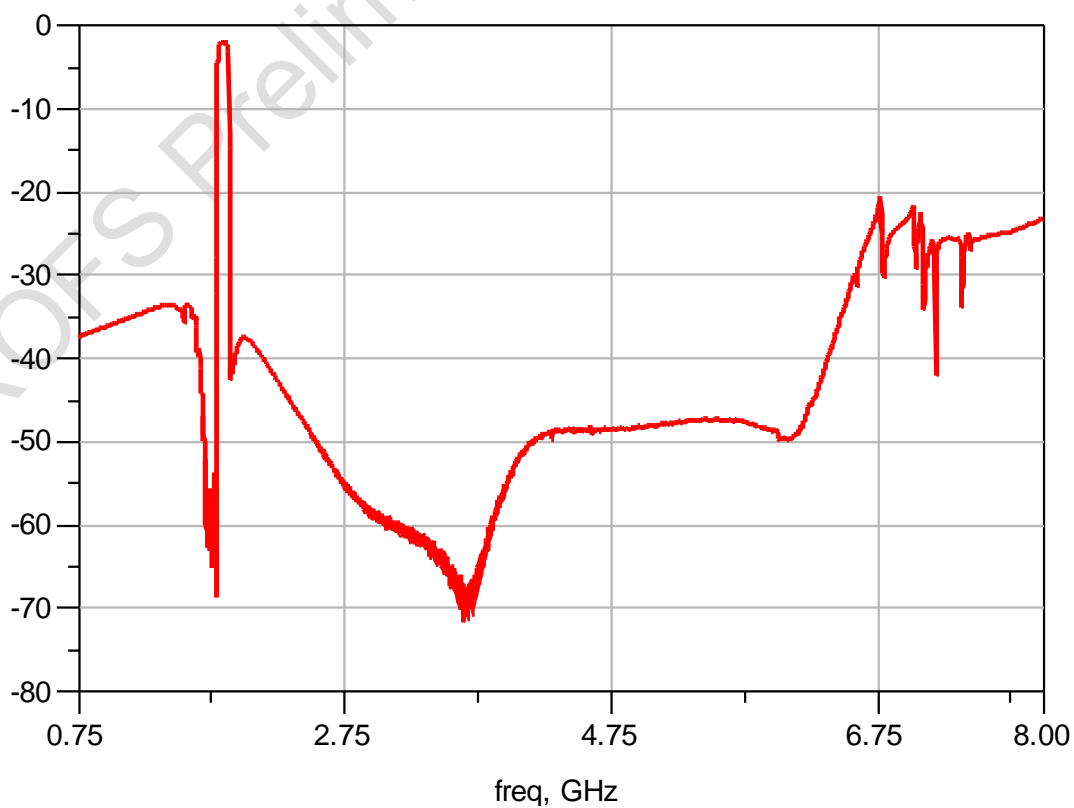
## Duplexer for Band 3



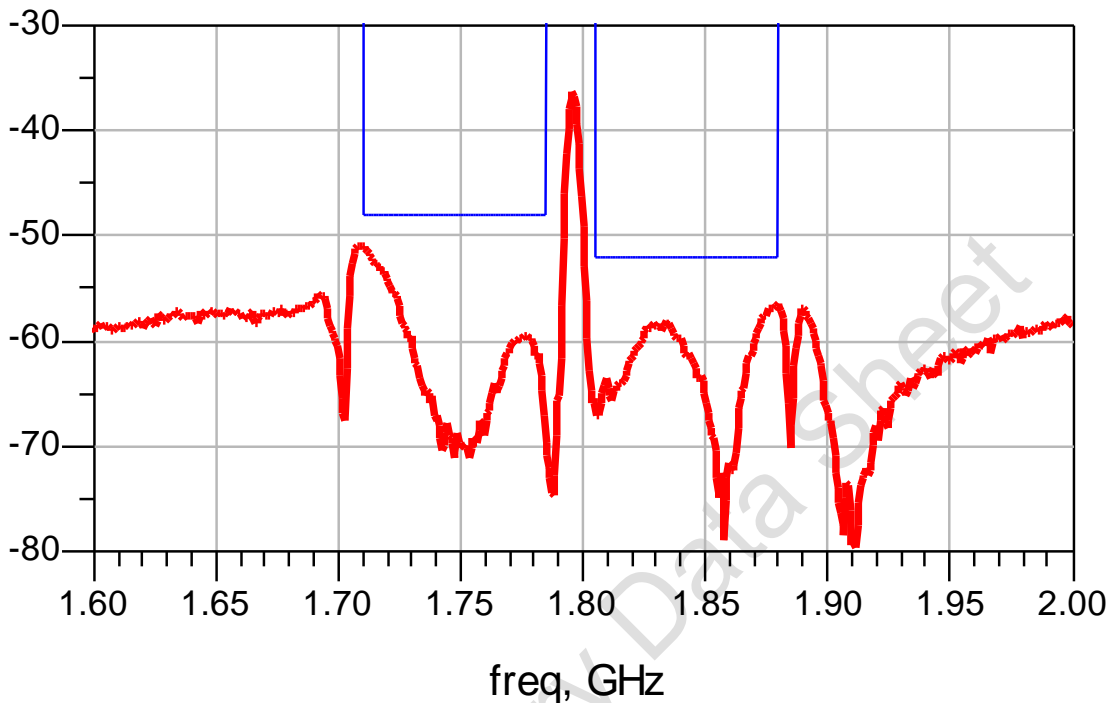
### TX-ANT Wide Band



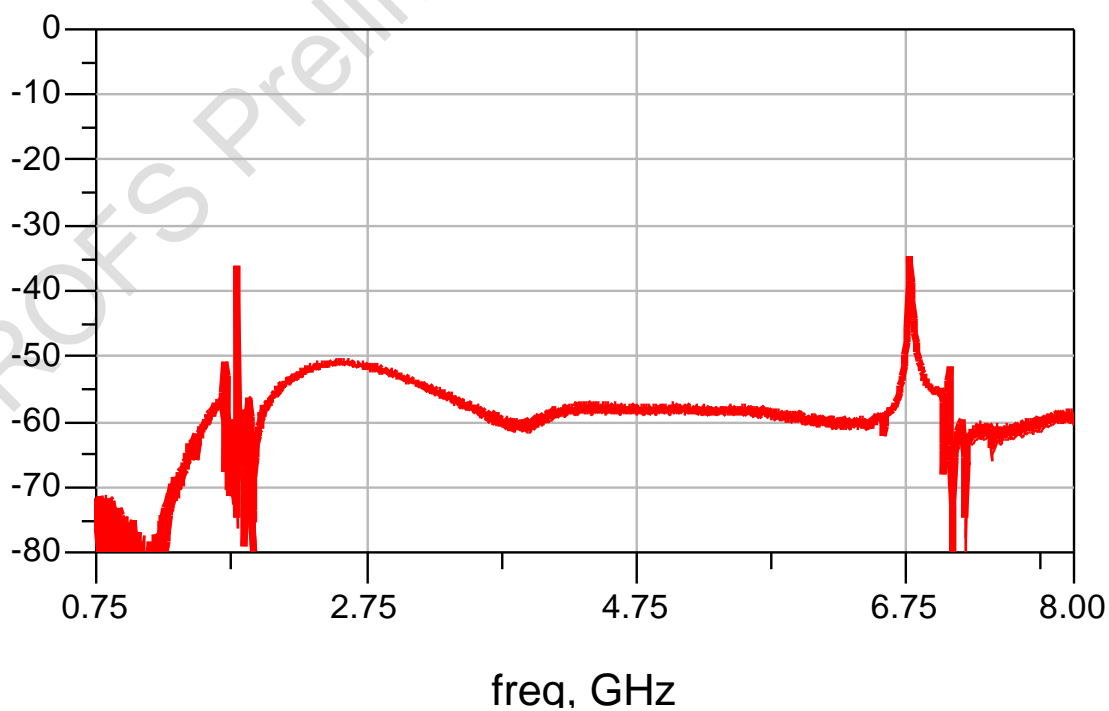
### ANT- RX Wide Band



### TX-RX Isolation



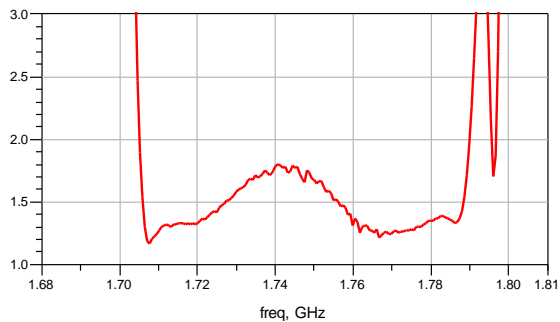
### TX-RX Isolation Wide Band



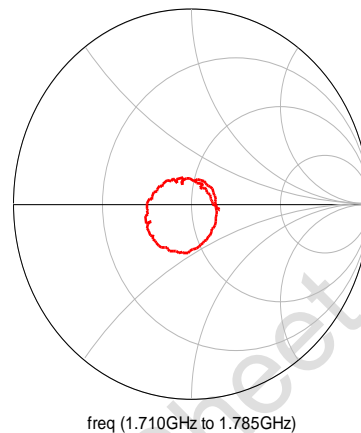
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## Duplexer for Band 3

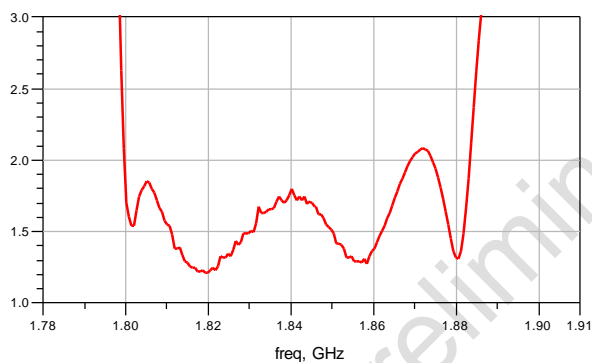
### VSWR of TX Port



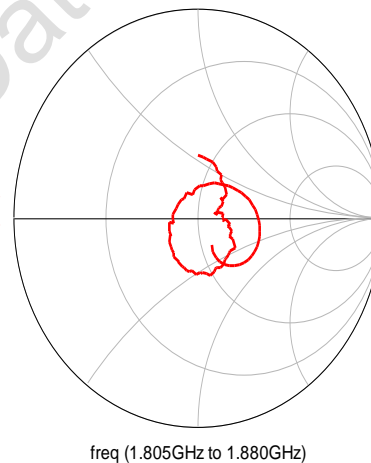
### TX Port Matching



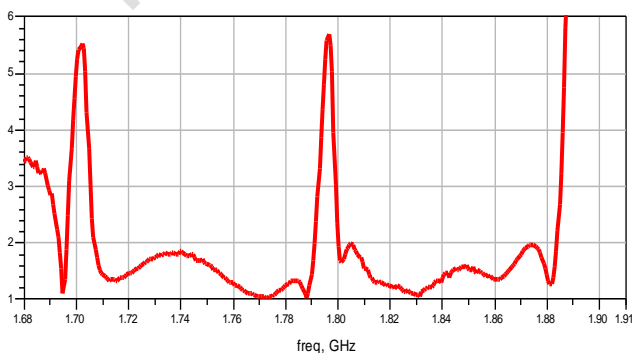
### VSWR of RX Port



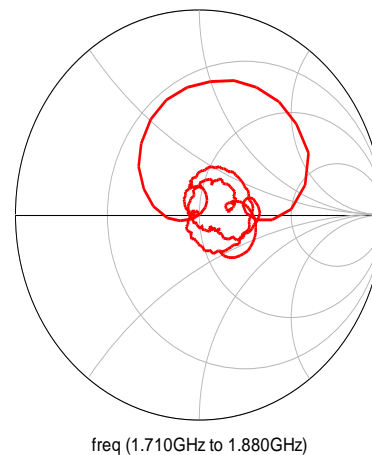
### RX Port Matching



### VSWR of ANT Port



### ANT Port Matching

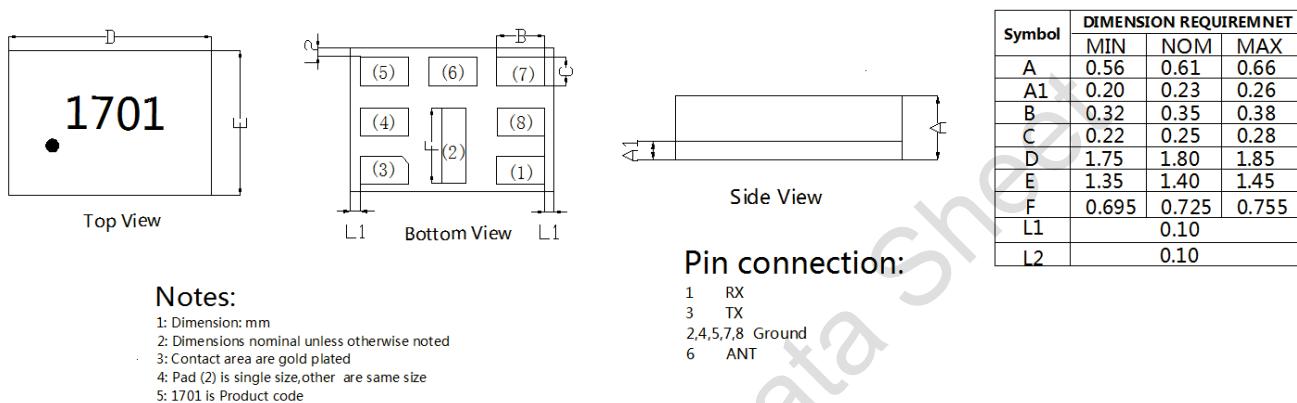




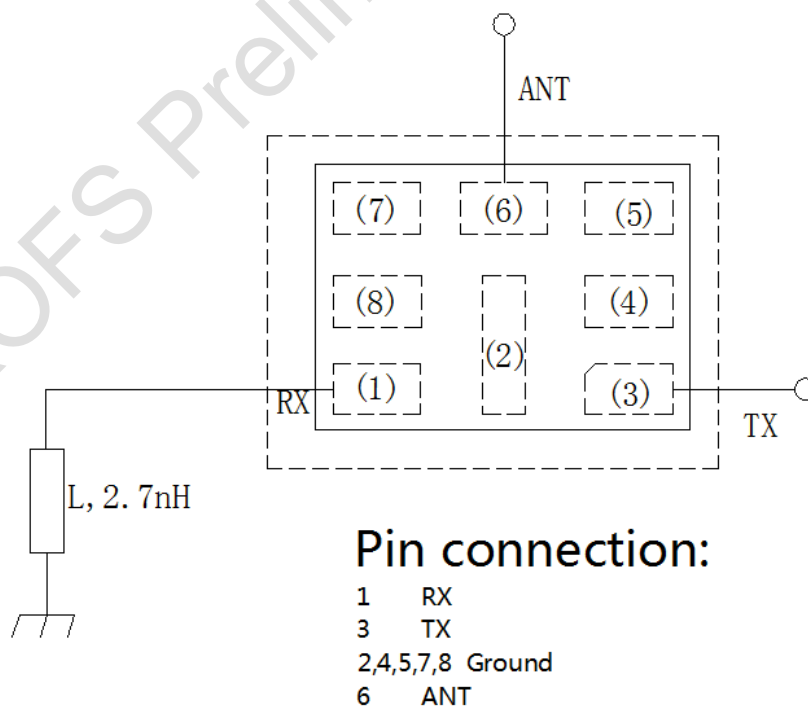
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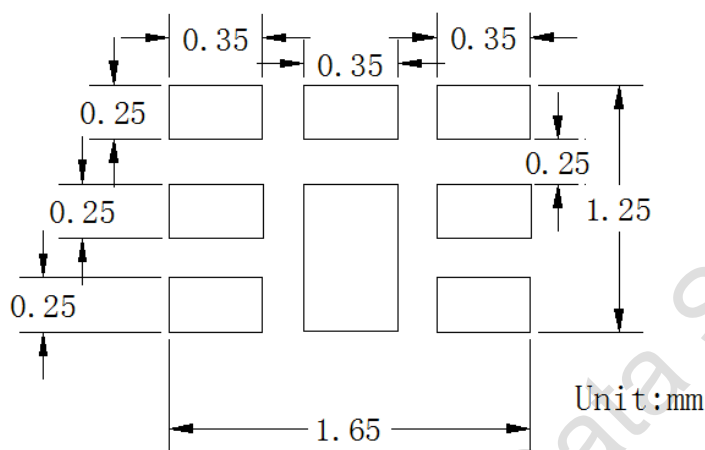
### Package Outline



### Measurement Circuit ( Top View )

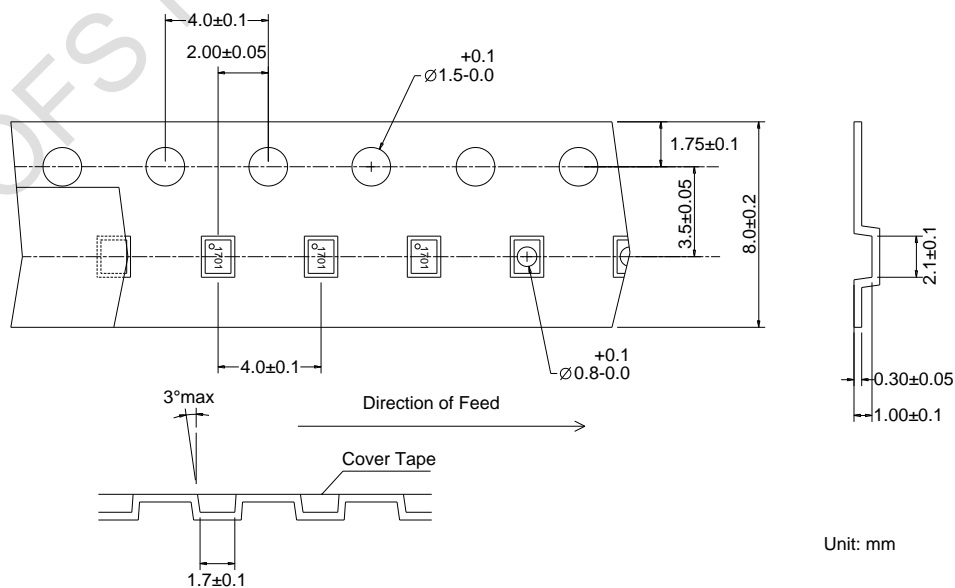


*PCB FootPrint*



*Packing*

**1. Tape Dimension**

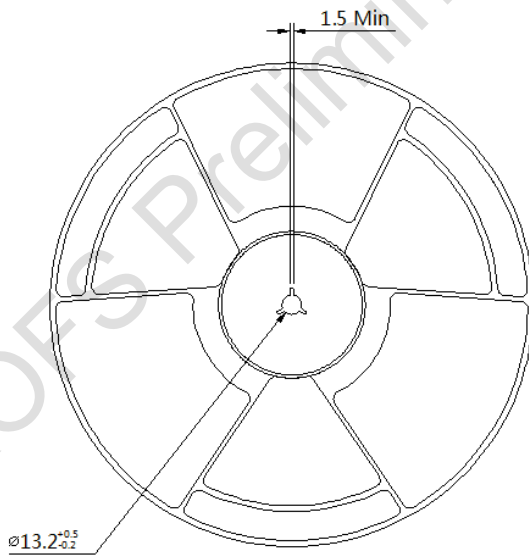
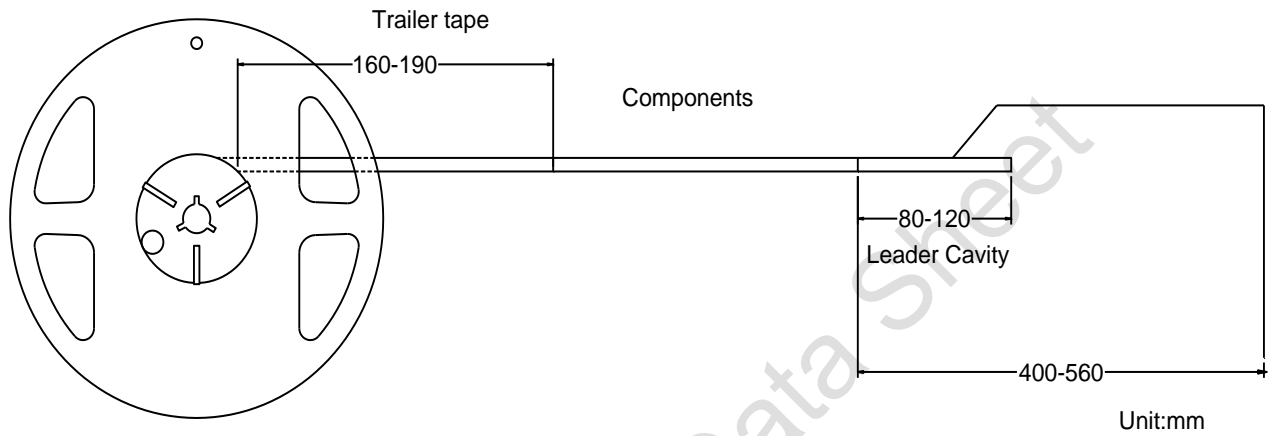


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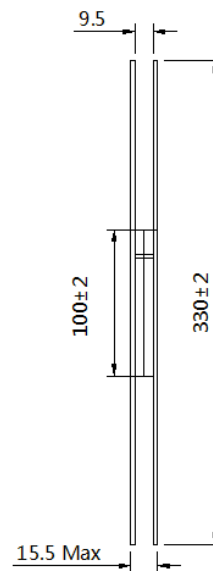
## Duplexer for Band 3

### 2. Reel Dimension

4000Pcs/Reel



Front View



Side View

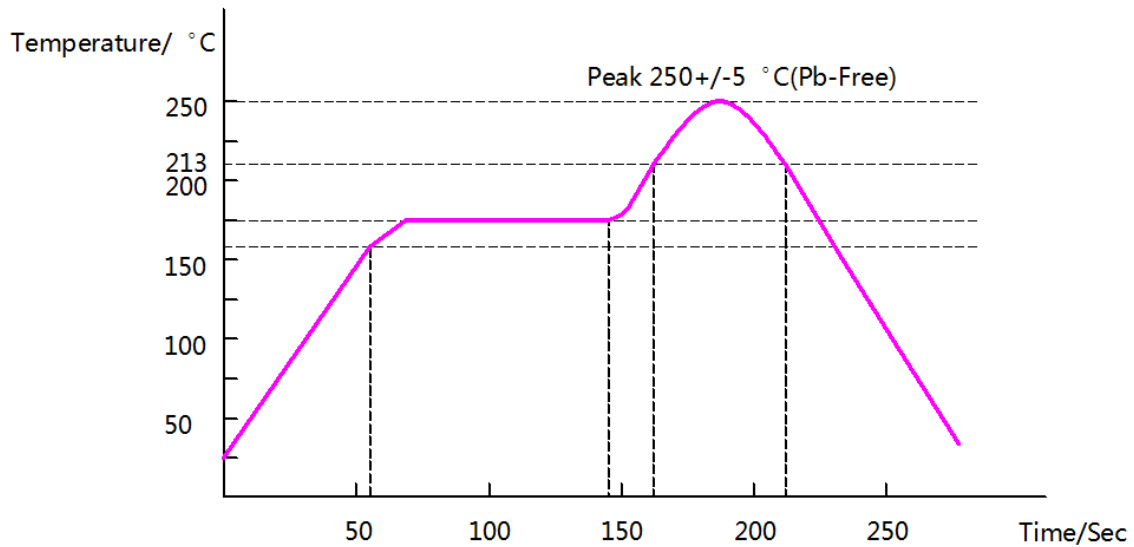
Unit: mm

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## Duplexer for Band 3



### Recommended Reflow Profile



### Order Information

Part Number	Qty Per Reel	Container
RSFD1701C	4000	13 inch Reel

For more information, please contact: [sales@rofsmicro.com](mailto:sales@rofsmicro.com)

### Notes:

The specification may be changed or the product had been discontinued, please check with our sales or product engineer before order.